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free,) would at the rate of four ounces per day, be paid for in a return of flesh, exclusive of the advantage of expeditious feeding, and the benefit to be derived from the manure.

Fourthly. That six ounces per day to each sheep exceeds the maximum that can be given with the best advantage: (this, it is obvious, applies to the middle-sized sheep only, such as those on which I tried the experiment. It is probable that six ounces might not be too much for some of the larger breed of sheep, as four ounces might be too much for some of the diminutive breeds).

Fifthly. That the advantage of stall-feeding sheep altogether upon sugar and dry food, of whatever nature that food may be, is extremely problematical.

Thus have I candidly laid before the board the result of a long series of experiments which, it will be perceived, have been prosecuted with unremitting attention and, in consequence of my being particularly circumstanced, at no inconsiderable expense and trouble for the space of four months and upwards.

Should any gentleman be disposed to repeat these experiments, having within himself all the requisite conveniences for such an undertaking I cannot but persuade myself, though he will certainly attain his object more cheaply and readily than I have done, that his conclusions will confirm the general accuracy of mine.

Observations on Luminous Animals;
by J Macartney, esq.

(Concluded from page 325.)

I shall terminate this paper by an enumeration of the several conclusions, that are the result of the observations I have been able to make upon the phenomena of animal light.

The property of emitting light, is confined to animals of the simplest

organization, the greater number of which are inhabitants of the sea. The luminous property is not constant, but in general, exists only at certain periods, and in particular states of the animal's body. The power of shewing light, resides in a peculiar substance or fluid, which is sometimes situated in a particular organ, and at others diffused throughout the animal's body. The light is differently regulated, when the luminous matter exists in the living body, and when it is extracted from it. In the first case, it is intermitting, or alternated with periods of darkness; is commonly produced or increased by a muscular effort; and is sometimes absolutely dependent upon the will of the animal. In the second case, the luminous appearance is usually permanent, until it becomes extinct, after which it may be restored directly by friction, concussion, and the application of warmth; which last causes operate on the luminous matter (while in the living body), only indirectly, by exciting the animal. The luminous matter, in all situations, so far from possessing phosphoric properties, is incombustible, and loses the quality of emitting light, by being dried, or much heated. The exhibition of light, however long it may be continued, causes no diminution of the bulk of the luminous matter. It does not require the presence of pure air, and is not extinguished by other gasses.

The luminous appearance of living animals is not exhausted by long continuance, or frequent repetitions, nor accumulated by exposure to natural light; it is, therefore, not dependent upon any foreign source, but inheres as a property, in a peculiarly organised animal, substance, or fluid, and is regulated by the same laws which govern all the other functions of living beings.

The light of the sea is always produced by living animals, and most frequently by the presence of the medusa scintillans. When great numbers of this species approach the surface, they sometimes coalesce together, and cause that snowy or milky appearance of the sea, which is so alarming to navigators. These animals, when congregated on the surface of the water, can produce a flash of light, somewhat like an electric coruscation. When the luminous medusæ are very numerous as frequently happens in confined bays, they form a considerable portion of the mass of the sea, at which times they render the water heavier, and more nauseous to the taste; it is therefore adviseable to always strain sea-water before it is drunk.

The luminous property does not appear to have any connection with the economy of the animals that possess it, except in the flying insects, which by that means discover each other at night, for the purpose of sexual congress.

New Method of applying the Filtering Stone for purifying Water; by Mr. William Moutt, of Bedford-square.

He objects to the old method of fil-

tering by putting water into the filtering stone, because the dirt falls to the bottom, and fills up, or chokes the pores of the filtering-stone, so that the stone requires frequently to be cleaned with a brush and sponge, to allow the water to pass, after which the water passes through the stone in a muddy state for two or three days; it likewise requires to be frequently filled, and as it empties less water, comes in contact with the stone, and therefore a smaller quantity, in such a state, can only pass through. Likewise a filtering stone used in the common way soon becomes useless, from the filth insinuating itself into the internal parts of the stone, out of the reach of the brush.

In the method he proposes and practices, the filtering-stone is placed within the water to be purified, which presses upon the outside of the filter, and the stone does not require to be supported in a frame as it needs only to stand within the water-cistern; it will thus filter, in an equal time, double the quantity of water procured in the common mode; it fills itself, and requires no cleaning. He has upon this plan used one for more than three years with great success.

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